I claim:

1. A system for measuring seat belt tension in a vehicle having an airbag control system and a seat, comprising:

a.) an accelerometer rigidly secured to said vehicle in proximity to the seat thereof, said accelerometer having an output signal responsive to the vertical acceleration of said vehicle;

b.) a seat weight sensor having an output signal responsive to the force exerted by a mass on said seat; and

c.) a computer processor having first and second inputs, the first input being operatively coupled to the output signal of said accelerometer and the second input being operatively coupled to the output signal of said seat weight sensor, wherein said processor calculates tension in said seat belt by comparing the output signal of said seat weight sensor at discrete time intervals with predicted fluctuations in the force exerted on the seat caused by vertical acceleration acting upon the mass, assuming no seatbelt tension.

2. The system of claim 1 wherein said seat weight sensor comprises a hydrostatic seat weight sensor disposed within the seat.

3. The system of claim 1 wherein said seat weight sensor comprises a plurality of load cells adapted to be responsive to the force exerted on the seat by said seat belt.

4. The system of claim 1 wherein said seat weight sensor comprises a plurality of force sensitive resistive elements disposed within the seat.

5. The system of claim 1 wherein said computer processor further comprises an output operatively coupled to said air bag control system for inhibiting said control system ~~the operation thereof~~ upon the calculation of high seat belt tension.

6. The system of claim 2 wherein said computer processor further comprises an output operatively coupled to said air bag control system for inhibiting an ~~the~~ operation thereof upon the calculation of high seat belt tension.

7. The system of claim 3 wherein said computer processor further comprises an output operatively coupled to said air bag control system for inhibiting an ~~the~~ operation thereof upon the calculation of high seat belt tension.

8. The system of claim 4 wherein said computer processor further comprises an output operatively coupled to said air bag control system for inhibiting an ~~the~~ operation thereof upon the calculation of high seat belt tension.

9. A method for predicting seatbelt tension in a vehicle having a seat, an accelerometer rigidly secured to said vehicle in proximity to the seat, said accelerometer having an output signal responsive to ~~the~~ a vertical acceleration of said vehicle, a seat weight sensor having an output signal responsive to ~~the~~ a force exerted by a mass acting on the seat, and a processor having a first input operatively coupled to the output signal of said accelerometer and a second input operatively coupled to the output signal of said weight sensor comprising:

a.) measuring ~~the~~ an actual variation in force due to vertical acceleration exerted on the seat over a predetermined time period;

b.) calculating ~~the~~ an average mass on the seat;

c.) calculating ~~the~~ a predicted variation in force due to vertical acceleration exerted on the seat by multiplying the average mass on the seat by the variation in vertical acceleration over ~~the~~ a predetermined time period; and

d.) dividing the actual variation in force by the predicted variation in force whereby ~~the~~ a quotient represents normalized seatbelt tension.

10. A method for predicting seatbelt tension in a vehicle having a seat, an accelerometer rigidly secured to said vehicle in proximity to the seat, said accelerometer having an output signal responsive to ~~the~~ a vertical acceleration of said vehicle, a seat weight sensor having an output signal responsive to ~~the~~ a force exerted by a mass on the seat, and a processor having a first input operatively coupled to the output signal of said accelerometer and a second input operatively coupled to the output signal of said weight sensor comprising:

a.) measuring the force due to vertical acceleration exerted on the seat at discrete time intervals;

b.) calculating ~~the~~ an average mass on the seat;

c.) calculating at discrete time intervals a predicted force acting

on the seat due to vertical acceleration, assuming the tension in said seat belt is zero; and

d.) calculating at discrete time intervals ~~the~~ a difference between the measured force exerted on the seat and the predicted force whereby the difference is indicative of seat belt tension.

11. A method for predicting seatbelt tension in a vehicle having a seat, an accelerometer rigidly secured to said vehicle in proximity to the seat, said accelerometer having an output signal responsive to ~~the~~ a vertical acceleration of said vehicle, a seat weight sensor having an output signal responsive to ~~the~~ a force exerted by a mass on the seat, and a processor having a first input operatively coupled to the output signal of said accelerometer and a second input operatively coupled to the output signal of said weight sensor comprising:

a.) measuring the force due to vertical acceleration exerted on the seat at discrete time intervals;

b.) calculating ~~the~~ an average mass on the seat;

c.) measuring the vertical acceleration acting on said vehicle at discrete time intervals;

d.) calculating at discrete time intervals a predicted force exerted on the seat by multiplying the vertical acceleration at each time interval by the average mass, assuming the tension in said seat belt is zero; and

e.) calculating at discrete time intervals ~~the~~ a ratio between the measured force exerted on the seat and the predicted force exerted on the seat whereby the ratio is indicative of seat belt tension.